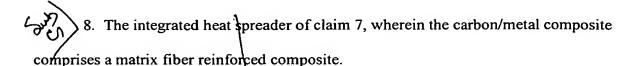


WHAT IS CLAIMED IS:

1. An integrated heat spreader constructed and arranged to be adhesively affixed, with a sealant, to at least a portion of a component, comprising:

- a body portion;
- a lip portion substantially vertically oriented relative to the body portion; and a step portion adjacent to the lip portion.
- 2. The integrated heat spreader of claim 1, wherein the step portion has a plurality of cutouts therein.
- 3. The integrated heat spreader of claim 1, wherein the step portion has a plurality of holes or bores therein.
- 4. The integrated heat spreader of claim 1, wherein the step portion is irregularly shaped.
- 5. The integrated heat spreader of claim 1, wherein the step portion is formed of copper or aluminum.
- 6. The integrated heat spreader of claim 1, wherein the step portion is formed of a carbon/carbon composite.
- 7. The integrated heat spreader of claim 1, wherein the step portion is formed of a carbon/metal composite.



- 9. The integrated heat spreader of claim 7, wherein the carbon/metal composite comprises a carbon/copper composite.
- 10. The integrated heat spreader of claim 1, further comprising a coating applied to the step portion.
- 11. The integrated heat spreader of claim 10, wherein the coating comprises nickel.
- 12. The integrated heat spreader of claim 1, further comprising a plated portion integrally formed with the step portion.
- 13. The integrated heat spreader of claim 12, wherein the plated portion is formed of gold, silver, tin, nickel, or a metal composite.
- 14. The integrated heat spreader of claim 1, wherein the sealant is silicone-based or epoxy-based.
- 15. The integrated heat spreader of claim 1, wherein the component comprises a substrate.



16. The integrated heat spreader of claim 1, wherein the body portion comprises a substantially rectangular or square frame.



- 17. The integrated heat spreader of claim 1, further comprising a thermal interface material (TIM) interposing a die and the body portion, the TIM comprising one of solder, a polymer/solder composite, and a polymer.
- 18. An integrated heat spreader constructed and arranged to be adhesively affixed, with a sealant, to at least a portion of a component, the sealant to act as an adhesive interface between the integrated heat spreader and the component, comprising:

a body portion; and

a lip portion vertically oriented relative to the body portion, the lip portion being constructed and arranged to define a changel in a face thereof.

- 19. The integrated heat spreader of claim 18, wherein the channel is substantially concave.
 - 20. A method of making an integrated heat spreader, comprising: forming a body portion;

forming a lip portion substantially vertically oriented relative to the body portion; and

forming a step portion adjacent to the lip portion.



- 21. The method of claim 20, wherein the step portion has a plurality of cutouts therein.
- 22. The method of claim 20, wherein the step portion has a plurality of holes or bores therein.
 - 23. The method of claim 20, wherein the step portion is irregularly shaped.
 - 24. A method of making an integrated heat spreader, comprising: forming a body portion; and

forming a lip portion vertically oriented relative to the body portion, wherein the lip portion defines a channel in a face thereof.

25. The method of claim 24, wherein the channel is substantially concave.

